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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/593,591	06/13/2000	Gary K. Michelson	101.0078-00000	5619
22882 7590 04/02/2008 MARTIN & FERRARO, LLP 1557 LAKE O'PINES STREET, NE HARTVILLE, OH 44632				
EXAMINER PREBILIC, PAUL B				
ART UNIT		PAPER NUMBER		
3774				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/593,591

Applicant(s)

MICHELSON, GARY K.

Examiner

Paul B. Prebille

Art Unit

3774

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

Continuation of Disposition of Claims: Claims pending in the application are 1,2,4,5,7-20,22-30,32-44,46,47,49-86,88,89,91-129,148-164,166,168-184,186,188-204,206,208-224,226,228-264,266 and 268-282.

Continuation of Disposition of Claims: Claims withdrawn from consideration are 43,44,46,47,49-84,153-157,183,184,186,188-202 and 243-262.

Continuation of Disposition of Claims: Claims rejected are 1,2,4,5,7-20,22-30,32-42,85,86,88,89,91-129,148-152,155-164,166,168-182,203,204,206,208-224,226,228-242,263,264,266 and 268-282.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 19, 2008 has been entered.

Election/Restrictions

Claims 43, 44, 46, 47, 49-84, 153, 154-157, 183, 184, 186, 188-202, and 243-244, 246, 248-262 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on January 26, 2005.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required. The language "bisecting and "two parts of equal maximum length" lacks antecedent basis from the specification so it would be unclear to one of ordinary skill what feature is being described from the disclosure.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 5, 7-12, 14, 16, 85, 86, 88, 89, 91-96, 98, 100, 102-105, 116, 117, 163, 164, 166, 168-173, 175, 179-180, 203, 204, 206, 208, 209, 211, 213, 215, 223, 224, 228-229, 231, 233, 235, 239, 240, 263, 264, 266, 268-269, 271, 273, 275, 279, and 280 are rejected under 35 U.S.C. 102(e) as being anticipated by Pafford et al WO 98/17209) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Pafford et al (WO 98/17209) in view of Tienboon (US 5,861,041) or Gresser et al (WO 99/08627) or Tropiano (US 5,607,424). Pafford anticipates the claim language the bone ring as claimed is obtained from a long bone (see the paragraph bridging pages 12 and 13), the leading end as claimed is the posterior wall (115), and the trailing end is the anterior

wall (111); see Figures 29 to 32. Upon measuring the dimensions of Figure 29, it was determined that the portion of opening or chamber (130) between the leading edge and the plane bisecting the body is greater than the remaining portion of the opening. In particular, the spacer shown in Figure 29 was measured to be 62 mm long and the farthest point of chamber (130) extends 19 mm on either side of the bisecting plane. However, due to the fact that chamber is arched on the trailing end and squared off on the leading side, the area of the chamber on the leading edge is inherently greater than the portion on the trailing side.

Alternatively, one may not consider the use of the Pafford drawing in this manner as an acceptable use of drawing disclosure because the drawings are not said to be to scale and because the difference found is not particularly pronounced. However, Tienboon (see Figure 11) or Gresser (see Figure 1A) or Tropiano (see Figure 4) each suggest that it was known to make openings in spinal implants that are off center and closer to a leading edge than to a trailing edge. For this reason, it is the Examiner's position that it would have been at least obvious to make the Pafford implant with chamber closer to the "leading edge" for the same reasons that the prior art does the same. Moreover, the mere change in shape or aesthetic design has been held to be obvious absent some showing or evidence that such a change has a significant mechanical function; see MPEP sections 2144.04 I, IV that are incorporated herein by reference.

Claims 1-2, 4, 5, 7-20, 22, 25, 30, 32-35, 85, 86, 88, 89, 91-106, 109, 114-119, 127-129, 148, 158, 163, 164, 171, 174, 175, 179, 180, 203, 204, 206, 208-211, 213-

215, 219, 220, 223, 224, 226, 228-231, 233-235, 239, 240, 263, 264, 266, 268-271, 273-275, 279, and 280 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyle et al (US 6,277,149) in view of Tienboon (US 5,861,041) or Gresser et al (WO 99/08627) or Tropiano (US 5,607,424). Boyle discloses a bone ring obtained from a long bone (Figures 5, 10, 12, and column 2, lines 28-55) that has all the claimed structure except for non-arcuate upper and lower surfaces as claimed. However, since Boyle teaches in other embodiments that it was known to utilize non-arcuate upper and lower surfaces (see Figures 1, 3, 9, 12, and 13), it is the Examiner's position that it would have been obvious to make the Figure 19 embodiment with non-arcuate upper and lower surfaces for the same reasons that Boyle utilizes the same in the other embodiments.

Additionally, Boyle does not disclose that the opening can have a majority of it between the leading end and the plane bisecting the length into two equal parts as claimed. However, Tienboon (see Figure 11) or Gresser (see Figure 1A) or Tropiano (see Figure 4) each suggest that it was known to make openings in spinal implants that are off center and closer to a leading edge than to a trailing edge. For this reason, it is the Examiner's position that it would have been at least obvious to make the Pafford implant with the opening closer to the "leading edge" for the same reasons that the prior art does the same. Moreover, the mere change in shape or aesthetic design has been held to be obvious absent some showing or evidence that such a change has a significant mechanical function; see MPEP sections 2144.04 I, IV that are incorporated herein by reference.

Regarding claims 25 and 109, the plural openings are the pores in the bone that are naturally present in such material.

Claims 26-29, 110-113, 149-152, 159-162, 172, 177, 178, 182, 212, 217, 218, 222, 232, 237, 238, 242, 272, 277, 278, and 282 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyle et al (US 6,277,149), Tienboon, Gresser, and Tropiano as used in the previous rejection, further in view of Kozak et al (US 5,397,364). Boyle fails to disclose the screw holes and screws as claimed. However, Kozak teaches that it was known to put multiple bone screws in similar implants as a means to secure them; see Figures 24 and 25 and the textual description of these figures. Therefore, it is the Examiner's position that it would have been obvious to use bone screws and have holes for them in the Boyle implant for the same reasons that Kozak uses the same: to secure the implant to the adjacent bone.

With regard to claims 28 and 29, it is the Examiner's position that it would have been prima facie obvious to make the bone screws and other bone implant components out of bone because the ring itself is made of that material. Since the ring itself is made of bone material, it would have been obvious to make the other parts of the implant out of the same material because it would have all the advantages and purposes that led Boyle to make the bone ring out of bone or composites of bone.

With regard to claim 155, it is the Examiner's position that it would have been prima facie obvious to have more than two bone screw openings since both one and two bone screws and their openings are taught by Boyle.

Claims 36-42, 120-126, 166, 168-170, 173, 181, 206, 221, 241, and 281 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyle et al, Tienboon, Gresser, and Tropiano as applied in the rejection of claim 1 above in further view of the suggestions of Boyle (US 6,277,149). Boyle et al fails to disclose the types of growth promoting substances claimed. However, the Examiner posits that the type of growth promoting substance would have been prima facie obvious over Boyle et al because there is no criticality for such types shown or demonstrated. For example, in column 4, lines 10-13, Boyle discloses putting bone growth material into the opening (26). The specific type of bone implant material claimed would amount to a substitution of a functionally equivalent bone growth material for another one as disclosed by Boyle. For this reason, it would have been prima facie obvious to an ordinary artisan to substitute one bone growth material for another since the other one would function equally well.

Claims 23, 24, 107, 108, 176, 216, 236, and 276 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyle et al, Tienboon, Gresser, and Tropiano as applied against claim 1 above, further in view of Zdeblick et al (US 5,669,909). Boyle et al renders obvious the claim language as explained in the rejection of claim 1 above but fails to disclose more than one bore through the upper and lower surfaces as claimed. Zdeblick et al, however, teaches that it was known to have more than one hole in similar implants; see the figures. Hence, it is the Examiner's position that it would have been obvious to have two or more holes in the Boyle et al implant for the same reasons that Zdeblick et al has the same and in order to promote greater ingrowth.

Response to Arguments

Applicant's arguments filed February 19, 2008 have been fully considered but moot in view of the new grounds of rejection.

Conclusion

Applicant should specifically point out the support for any amendments made to the disclosure, including the claims (MPEP 714.02 and 2163.06). Due to the procedure outlined in MPEP 2163.06 for interpreting claims, it is noted that other art may be applicable under 35 USC 102 or 35 USC 103(a) once the aforementioned issue(s) is/are addressed.

Applicant is respectfully requested to provide a list of all copending applications that set forth similar subject matter to the present claims. A copy of such copending claims is respectfully requested in response to this Office action if the application is not stored in image format (i.e. the IFW system) or published.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Paul B. Prebilio whose telephone number is (571) 272-4758. He can normally be reached on 6:30-5:00 M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Corrine McDermott can be reached on 571-272-4754. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Paul Prebilio/
Paul Prebilio
Primary Examiner
Art Unit 3774